

Five Step Process to Graphing Parabola

1. Write equation in standard form

a. $y = ax^2 + bx + c$ or $x = ay^2 + by + c$

2. Take the derivative

a. $\frac{dy}{dx} = 2ax + b$ or $\frac{dx}{dy} = 2ay + b$

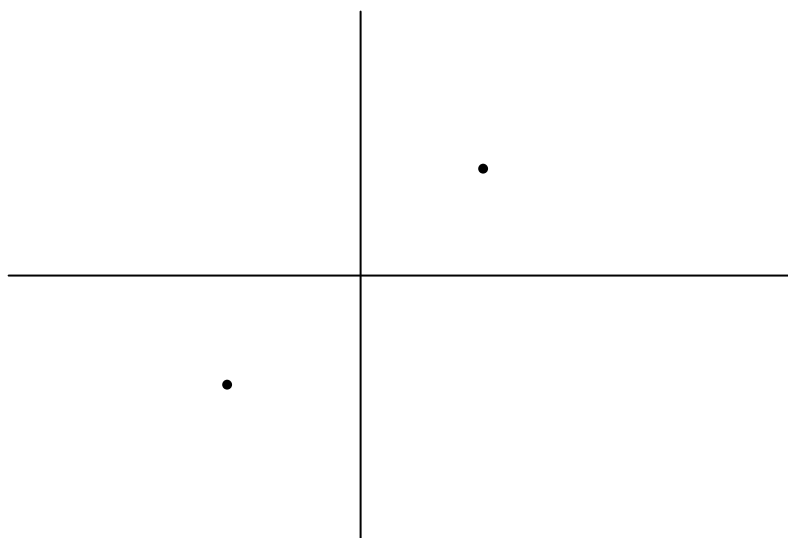
3. Set derivative equal to zero then solve for x-variable

a. $2ax + b = 0$ or $2ay + b = 0$

4. Once you get the x-variable (which is the x-coordinate of the vertex point), use it to get the corresponding y-coordinate. Plot this on the graph.

a. $x = -\frac{b}{2a}$ or $y = -\frac{b}{2a}$

5. Find another point, then plot it on the graph



6. Connect the points to form half of the parabola, then using symmetry graph the other side of the parabola.

